

# SPECIFICATIONS FOR PORTABLE TRAFFIC DATA COLLECTOR

April 23, 2012

## Introduction:

These specifications by the Kansas Department of Transportation (KDOT) are for the purchase of portable vehicle speed and length data collectors. KDOT reserves the right to waive minor variations under this specification. Federal and State laws supersede any conflicting part of this specification. The unit shall be a current model, new and unused, under standard production by the manufacturer. All parts utilized on the unit shall be new and unused.

## Equipment Specifications

The portable traffic data collectors shall meet the following minimum requirements.

- a) The unit shall be totally self contained requiring no external sensors such as induction loops, road tube or tape switches.
- b) The unit shall be capable of collecting Individual Vehicle records that include each vehicle's:  
Date-Time to 1 second  
Length in 1 foot increments  
Speed in 1 mph increments
- c) The unit shall have a minimum of (8) vehicle length bins and a minimum of (15) speed bins in 1 foot and 5 mph increments, respectively. Length and speed bin ranges shall be adjustable to user values.
- d) The manufacturer of the unit shall include necessary software to retrieve collected data for review and exportable to comma delimited, Microsoft Excel Spreadsheet or format acceptable to KDOT.
- e) The unit shall allow the user to set in advance the data collection period.
- f) The unit must be portable and must install quickly and easily at any roadway location.
- g) The unit shall operate at temperatures from -20°C to +60°C.
- h) Each unit shall include all necessary hardware including user replaceable rechargeable batteries, data transfer device and protective cover.

## Performance Specifications:

- a) The unit will be accuracy tested against an automatic traffic recorder (ATR) equipped with vehicle presence detectors (loops). 24 hour totals of Volume, Speed and Length will be compared using 1 hour collection intervals, (15) 5 mph speed ranges starting at 20 mph and (4) 20 ft length ranges. The accuracy of the unit will be computed using the total of hourly agreement volumes of the (3) categories. Accuracy less than 90% will result in rejection of the unit.

- b) The unit shall have sufficient memory and battery capacity to record hourly volumes and speed using (8) vehicle length bins and (15) speed bins, respectively, a minimum of 168 hours (1 week) at any location without download or recharge.
- c) Under no circumstances shall data collected by the unit be deleted or overwritten without explicit action from the user to clear the memory.
- d) The unit shall have the option to verify proper operation remotely, from the roadside, while traffic data is being collected.
- e) The unit shall have bi-directional recording capabilities for traffic volume, length and Speed counts.

Testing, Acceptance and Delivery:

- a) Testing. KDOT will test the low bidder's traffic data collector for the purpose of verifying compliance with these specification and accuracies. KDOT will conduct this testing within 30 days after official notification, but may extend this time period should weather or other unforeseen conditions arise.
- b) Acceptance: Upon completion of the testing, the bidder will be notified by KDOT in writing of acceptance or rejection of the traffic data collector.
- c) Delivery: Delivery should be made to

KDOT Planning Shop  
Attention: Doug Edwards  
101B Gage Boulevard  
Topeka, KS 66606

Questions regarding specifications should be addressed to:  
Rick Andersen, Traffic Data Analysis Engineer  
(785) 296-3841 or [donalda@ksdot.org](mailto:donalda@ksdot.org)

KDOT RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS.